

National Aeronautics and Space Administration



NASA'S TECHNOLOGY INFUSION
ROAD TOUR

Historically Black Colleges/Universities & Minority Serving Institutions

NEW MEXICO STATE UNIVERSITY

**Utilizing NASA's Small Business
Specialists**

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August 13, 2019



Glenn Research Center at-a-Glance



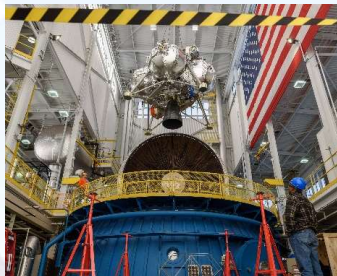
Air-Breathing Propulsion

This competency includes revolutionary concepts, technologies, and new systems aimed at significantly advancing air-breathing propulsion for aerospace vehicles that enable reduced energy consumption, use of alternative energy sources, reduced noise and emissions, increased versatility, improved safety of operations, faster modes of air transportation, and reduced costs for aerospace travel.



Communications Technology and Development

This key technical area includes research, development, demonstration, and transition to operations of communications systems. Focused technologies with subject matter expertise include antennas, propagation, optical and radiofrequency devices, high-power amplifiers, intelligent sensors, software-defined radios, cognitive radios, and networking. Model-based systems engineering tools and emulation capabilities allow for analysis of the impacts of changes to existing networks and extension to future network operations. Flight demonstration of components and systems is used as a path to transition new capability to operational use.



In-Space Propulsion and Cryogenic Fluids Management

This competency includes the research, technology development, technology demonstration, and flight development of components, subsystems, and systems for spacecraft propulsion systems, propulsion stages, and cryogenic fluid flight systems to enable new mission capability; increased reliability, safety, and affordability; and reduced trip times. This involves the design, testing, and evaluation of in-space propulsion technologies and systems such as propellants, chemical propulsion, electric propulsion (ion, Hall, and plasma), nuclear propulsion, and other advanced concepts; reaction control; and orbital maneuvering.



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Power, Energy Storage and Conversion

Aerospace power system capabilities at GRC encompass all technology readiness levels from basic research through flight hardware. This includes extensive capabilities in power system analysis and modeling, and all requisite skills, expertise, and facilities for power generation, energy storage, and electric power distribution. Power generation capabilities include the development of solar cells, solar arrays, primary fuel cells, radioisotope power systems, fission power systems, and associated thermal systems

Materials for Extreme Environments

This competency includes the research, development, demonstration, and flight application of advanced materials, structural concepts, and mechanisms to enable high-performance, long-life aerospace systems subjected to the extreme environments encountered in propulsion and power, planetary entry, planetary surface operations, and the space environment. These extreme environments include a combination of high temperatures, complex gaseous atmospheres ranging from oxidizing to reducing, high pressures, large dynamic and impact loads, molten materials, cryogenic temperatures, electromagnetic fields, and space radiation. Research and development areas essential to success include high-temperature and lightweight structural materials, functional materials and coatings, multifunctional and lightweight structural concepts, tribology, robust mechanism and drive system concepts, computational design tools and predictive capabilities for materials and structures, and testing in a broad range of extreme environments.

Physical Sciences and Biomedical Technologies in Space

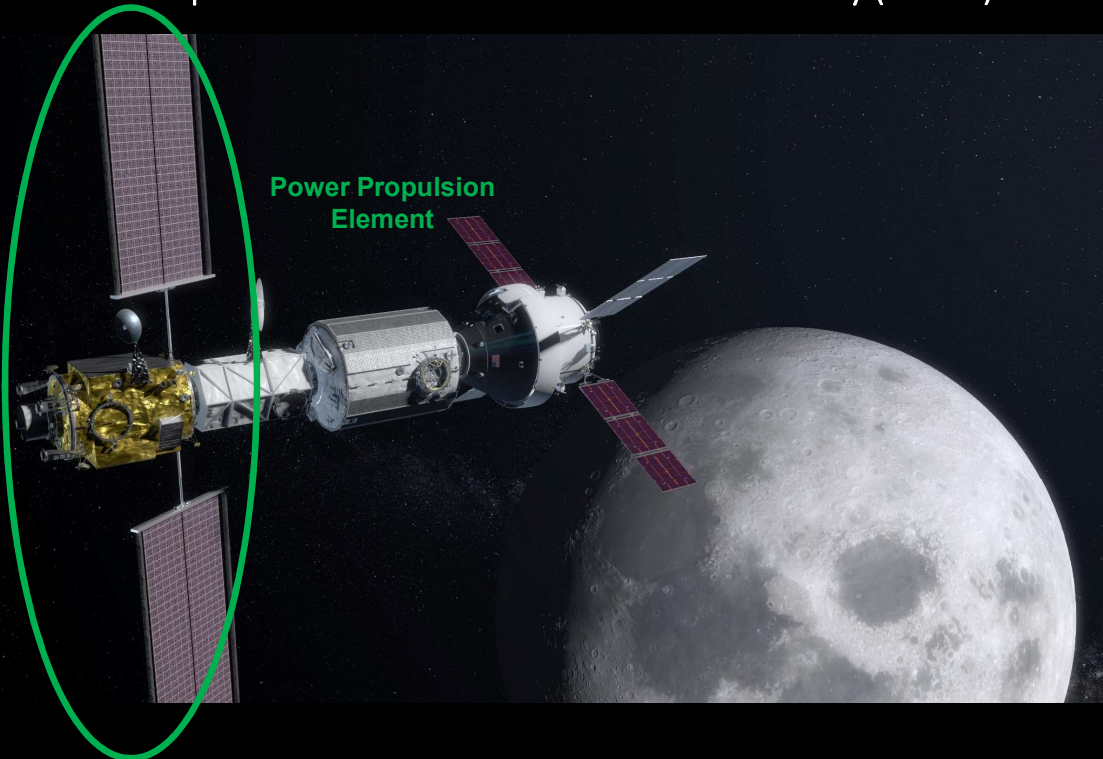
This competency includes the research, development, demonstration, and flight of advanced physical and biomedical systems to enable sustainable exploration of space with enhanced safety, extended mission durations, and increased resistance to the damaging effects of space. Space-flight and ground-based research are conducted to study the effects of the space environment to obtain insight into fundamental mechanisms, develop predictive frameworks and advanced technologies, and develop and implement countermeasures to mitigate any adverse effects.

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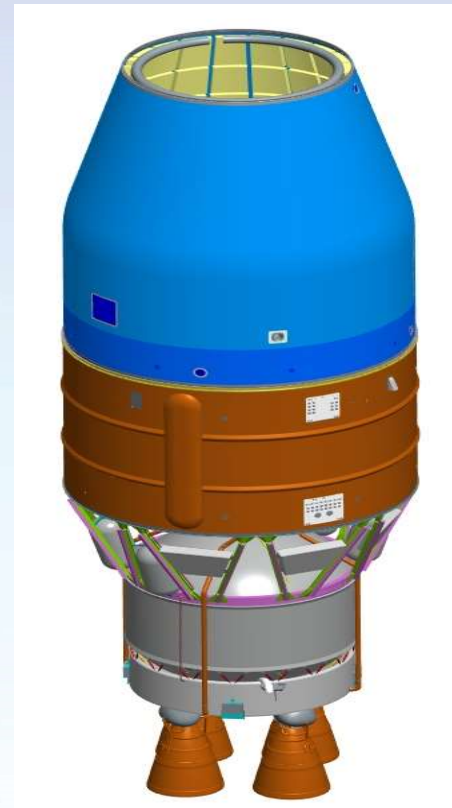
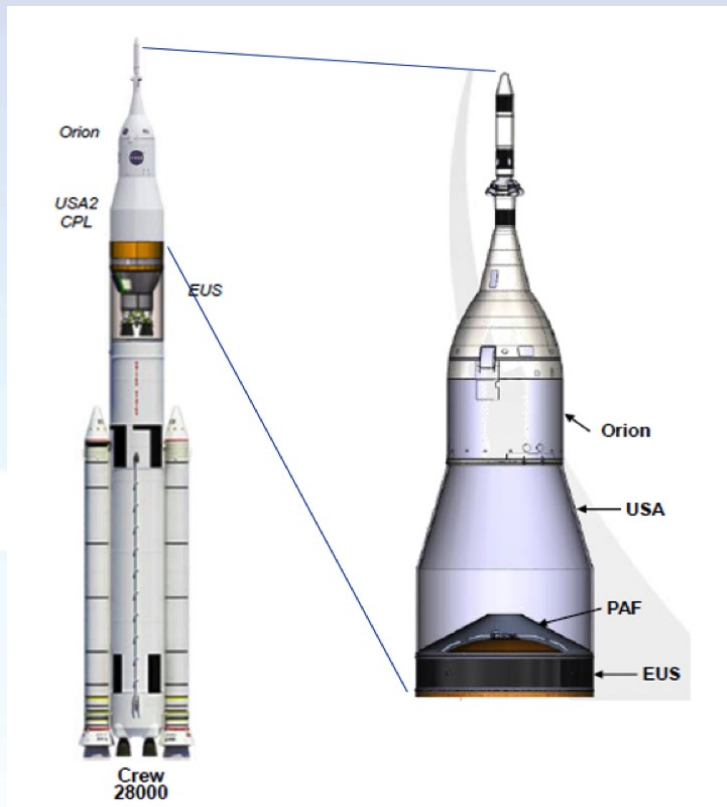
- GRC is active in the Gateway/Artemis project leading the agency Power Propulsion Element (PPE) and the Upper Stage Adapter (USA) development.
 - PPE is a NASA and industry partnership for developing the Power and Propulsion Element capabilities that meet NASA human space exploration objectives to support more extensive human space flight missions in the proving ground around and beyond cislunar space while also supporting industry commercialization plans for expanding the frontiers of future opportunities in space.
 - USA
 - Provides the structural element between Exploration Upper Stage and Orion
 - Encapsulates co-manifested and secondary payloads
 - Provides thermal and acoustic environmental control to payloads during integrated ground operations, launch, and ascent phases
 - Separates to expose payloads post Orion deployment
 - Transfers electrical and communication services between the Payload Attach Fitting/Exploration Upper Stage and Orion



Concept for the Lunar Orbital Platform - Gateway (LOP-G)



UPPER STAGE ADAPTER



SBS Engagement

- Small Business Counseling Sessions
- Face-to-Face and Telephone
- Local Outreach events/Matchmaking
- Webinars, Trade Shows, Expos

Top 5 Value Procurements (at Your Center) 18-24 Months (External)

Name of Procurement	Incumbent	NAICS Code	Estimated Dollar Value*	Current Set-Aside (Y/N) If yes, list category of set-aside	Contract End Date (Mo\Year)	Other
Professional Administrative Computational Engineering (PACE V)	Peerless Technologies, Inc.	541519	\$100M+	Y	05/2020	
Coaching, Organization Development, and Employee Development (CODED)	N/A	TBD	\$5M - \$50M	TBD	N/A	
Facilities Operations Repair and Maintenance (FORM)	Wolfcreek Federal Services	561210	50M - \$100M+	Y	9/2020	
Chemical Propulsion Research Complex (CPRC), Building 35 Demolition	N/A	236220	\$5M - \$50M	N/A	N/A	
Construction of Central Process Systems	N/A	236220	\$5M - \$50M	N/A	N/A	

10 Tips on Doing Business with NASA **<https://osbp.nasa.gov/business.html>**

1. Identify Your Product or Service
2. Register Your Business
3. Identify Your Target Market Within NASA
4. Identify Current NASA Procurement Opportunities
5. Explore Subcontracting Opportunities
6. Familiarize Yourself with NASA Contracting Procedures
7. Investigate Federal Supply Schedule (FSS) Contracts
8. Seek Additional Assistance as Needed
9. Investigate NASA Small Business Programs!
10. Market Your Firm Well!!!

NASA SMALL BUSINESS SPECIALISTS

Center Category	Center	Name	Phone	Email
RESEARCH CENTERS	Ames Research Center	Christine L. Munroe	650-604-4695	Arc-smallbusiness@mail.nasa.gov
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	Glenn Research Center	Eunice J. Adams-Sipp	216-433-6644	Grc-smallbusiness@mail.nasa.gov
	Langley Research Center	Robert O. Betts	757-864-5717	Larc-smallbusiness@mail.nasa.gov
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SCIENCE CENTER	Goddard Space Flight Center	Elizabeth A. Haase	301-286-3443	Gsfc-smallbusiness@mail.nasa.gov
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Web site:

www.osbp.nasa.gov

NASA Vendor Database:

<https://vendors.nvdb.nasa.gov>